# The SCE Utility Outlook
# The Next 5+ Years

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# Where are we now? Residential

- Basic Bare Spiral CFLs 30 Watts and Less are No Longer Rebated
  - The CPUC assigned limits for 2013-2014 based on the Navigant Potential Study
  - Those limits have been exceeded. Logical outcome: No More Basic CFLs in upstream lighting.
- Specialty CFLs Are Being Rebated, But Energy Impacts Are Dwindling
  - It is costing more to get less energy savings.
  - Certain types are being squeezed out due to low cost-efficiency or other risk
  - LEDs are starting to become known as better than Specialty CFLs in the market
  - Hardwired CFL fixtures discontinued due to low cost-efficiencies given high energy targets.
- LEDs are Phasing In
  - In 2013 we transitioned gradually from ENERGY STAR Plus (84 CRI or >) to CEC Quality Specification (90+ CRI, 51+ R9, 0.9+ PF, ENERGY STAR Draft 2 Omnidirectionality, 45 degree cutoff between Flood & Spot beam angle, etc.)
  - About 16% of SCE upstream lighting dollars went to LEDs
  - In 2014 about 35% will go to LEDs
  - CPUC decision not to rebate LEDs through upstream programs unless CEC Specifications are met precluded LED hardwired fixtures from being rebated
  - Currently an “voluntary” code, but involuntary for rebates through upstream lighting programs
  - Residential Title 24 is tightening LED hardwired fixture requirements, starting in July
  - Applies only to new construction and major remodeling
  - 90 CRI

# Where are we now? Nonresidential

- Standard downstream nonresidential programs are rebating lots of LED products
- SCE is conducting a Midstream Trial Study featuring LED fixtures for nonresidential
- Nonresidential Title 24 has been gradually squeezing out eligibility for lighting rebates in nonresidential. Now if 10% of lights are retrofitted, it triggers Title 24 and no rebates can be granted or savings claimed.
- SCE undecided yet making progress as to TLEDs, configuration, quality, standards.

## 2015 (Res. and Nonres.)

- Planning for 2015 is underway
- Much the same as 2014 in terms of measures rebated with more emphasis on lower CFL wattages
- Estimated 50% of upstream dollars will go to LEDs
- Whereas regulators frown on too much lighting in the portfolio, we are trying to propose more lighting due to reductions in savings potential of other measures with more limited customer demand.

# 2016

- **A Proposed Code for Screw-in LEDs is under consideration for 2016 release**
  - Similar to CEC Quality Specifications, but wider scope
  - Hoping to relax CCT limitations when applied to nonresidential
  - Involuntary, part of new Title 20 Equipment Codes
  - Applies to all Screw-in LEDs sold in California
  - Still being ironed out (debated)
- **A New 2 or 3 Year Program Funding Cycle starts in 2016**
  - Uncertainty as to regulators' direction
  - Increased emphasis on market transformation
  - Presumed philosophy of LED market saturation being key to lighting market transformation

# 2017

- **The final year of lighting programs as we know them**
  - Title 20 Equipment code change in 2018 to 45 lumens per Watt minimum for general service lamps
  - Energy impacts expected to collapse to a small fraction in 2018
  - 2017 is the year to optimize lighting savings claims
  - Hopefully reduced costs to LEDs
  - Hopefully wider range of LED products and more lumen ranges
  - Continued market saturation of LEDs

# 2018

- **The new world – will there be lighting programs at California investor-owned utilities?**
  - Specialty CFLs will likely no longer be cost-effective for rebates or energy savings. Hence, the end of CFLs.
  - LEDs must radically improve in efficacy and price by 2018 to be of significant savings potential in the mass residential market. Still our best hope of rebate programs in 2018 and after.
  - Building code revisions could threaten most nonresidential potential for lighting programs by 2018
  - Could lighting programs become mostly educational rather than rebate-driven?

# 2019 and Beyond

- **Life after the 2018 transition**
  - By 2019 the effects of 2018's transition will be known.
  - The five stages of grief, ending in acceptance?
  - Or:

# But Wait!

- **Conflicting dreams**
  - California Regulators have thrown down gauntlets for reducing state energy consumption by 50% by 2020
  - In support the regulators' Lighting Action Plan sets a target of 60% to 80% reduction in lighting consumption statewide by 2020
  - Relying on planned code changes to accomplish much of these goals
- **What if code changes do not transform the market to meet the State's goals?**
  - What if the energy crisis worsens?
  - What if the State needs more energy savings?
  - What if Solar does not deliver the long term benefits to the State envisioned?
- **Could lighting energy efficiency once again be the strongest solution?**